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Motivational Factors Influencing Housing Interior Finish Choice and Preference

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Abstract

For any product to command the attention of prospects depends on the quality of its finishing. Housing interior quality depends on the quality of its finishes. This paper presents part findings of housing interior finishes choice and preference among prospective house owners in Nigeria. The study was conducted within the methodological and conceptual frameworks of Means-End Chain (MEC) and Stated Housing Preference and Housing Choice (SHPHC) models. Questionnaire survey and semi-structured interviews were used and data analyzed by content analysis. The result showed that 71.95% ceramic tiles floor finish were preferred by respondents for various motivational factors.

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Keywords: Means-end chain; laddering; stated housing preference and housing choice; housing interior finishes.

1. Introduction

Housing space quality defined as “fitness for use” (Ozsoy & Gokmen, 2005, p.19) is achievable largely by involving the would-be user of the space through the articulation and incorporation of the user’s design needs and expectations. According to Smith, et al., (1997; as reported in Ozsoy & Gokmen, 2005, p. 18), the concept of quality has a very broad usage, encompassing a variety of meanings. They

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defined quality as “distinguishing properties that promote a degree of excellence”. These ‘distinguishing properties’ can be determined only by eliciting from the would-be users of the housing their choices of the kind and quality of housing space they prefer; and to disentangle their motivations for such preferences. Achieving quality housing space will invariably engender the achievement of person-environment congruence (PEC).

Housing Choice and Preference is explored based on the relationship between prospecting house owners’ expectations and housing interior finishes that will support his personal value needs, and release fulfillment within his housing unit’s environment. This paper presents part of the findings for housing interior finishes choice and preference among prospective house owners in Nigeria. The study was conducted within the theoretical and conceptual frameworks of Means-End Chain (MEC) research model and stated housing preference and housing choice (SHPHC) model by exploring the relationships, linkages and influence of personal values on choice and preference for housing interior finishes attributes in the city of Yola, Nigeria.

2. Theoretical Framework

Two main frameworks outlined the study: the Means-End Chain (MEC) research model and the Stated Housing Preference and Housing Choice (SHPHC) model.

2.1. Means-End Chain (MEC) Model

MEC model has a long research history. Gutman (1982) first introduced the concept, with a focus on qualitative in-depth understanding of consumer motives. This qualitative approach was used to identify and represent the content and structures of consumer models for products and brands. Reynolds and Gutman (1988) made MEC model well-accepted by providing a hands-on description of how to conduct, analyze and use MEC interviews (Weijters & Muylle, 2008). Kaciak and Cullen (2006) assert that MEC has been a popular and ever-evolving research domain since its introduction. Gutman’s MEC theory (1982) was inspired by research from Rokeach (1968), and Yankelovich (1981) who showed that values direct people’s behavior in all aspects of their lives (Boer & McCarthy, 2004). Although MEC original purpose was for linking consumers’ values to their choice behavior in marketing and consumer research, it is becoming popular in other areas (Tania et al., 2006) like architecture, urban design, advertising, information technology, and organizational management (Rugg et al., 2002).

Gutman (1982) defines MEC as a model that seeks to explain how a product or service selection facilitates the achievement of desired end states. MEC links sequentially products’ attributes (A) to consequences of product use (C) and to individuals’ personal values (V). The resultant A-C-V sequence that forms is called means-end chain or ladder. Coolen et al. (2002) view MEC as a model that relates the choice of a good (defined as a collection of attributes) to its contribution to achieving objectives and values. They explained that “means” are objects (products) or activities in which people engage e.g. running, reading, cooking, etc, and “end” is valued states of being such as happiness, security, and accomplishment. The essential idea in MEC theory is that consumers choose the actions which produce the desired consequences and which minimize the undesirable consequences. Reynolds and Whitlark (1995) paradoxically stress that while a means can be an end, an end can also be a means. Meesters (2005) posits that in order to make the right choice between the different goods with different consequences, the consumer must learn which good possess the attributes producing the desirable consequence.

2.1.1. Conceptual structure of MEC model

The constructs of the original structure of MEC model (Gutman, 1982) are attributes consequences and values (Fig. 1). The linkage between values and consequences is of essential importance in the MEC model. Coolen et al. (2002) give the linkages as, firstly, that a certain good must be consumed or used to realize a desirable consequence; secondly, it is the linkage between consequences and the attributes of goods.



Fig. 1. Structure of MEC (Source: Gutman, 1982)

The original MEC model is based on four assumptions. First, it assumes that objectives and values influence choice processes; secondly, it assumes that people can keep track of the enormous diversity of goods by grouping them in sets or classes so as to produce the complexities of choice; thirdly, it assumes that behavior of consumers has consequences, although these consequences do not have to be for everybody; and fourthly, it assumes that consumers learn to associate particular consequences with particular behaviors (Gutman, 1982; Coolen & Hoekstra, 2001; Tania et al., 2006).

2.1.2. Laddering Technique of MEC

The method used for data collection in MEC is known as laddering. It was first introduced in the 1960s by clinical psychologists as a method of understanding people's core values and beliefs (Hawlev, 2009). Various researchers, Tania et al. (2006), Costa et al. (2004), Grunnet and Grunnet (1995), and Reynolds and Gutman (1988), agree that the laddering technique was developed by Dennis Hinkle in 1965 (PhD dissertation), as a means of modeling people's belief structures; and the term "laddering" was coined by Bannister and Mair (1968) who extensively used the technique in their research (Zinas & Jusan, 2009; 2010a, b).

It is qualitative in nature – utilizing a semi-structured interviewing tool aimed at eliciting responses from respondents' perception on the attribute-consequence-value (A-C-V) elements (Jusan, 2007). Reynolds and Gutman (1988) assess that laddering involves a tailored interviewing format using primarily a series of directed probes, typified by the "why is that important to you?" question, with the express goal of determining sets of linkages between the key perceptual elements across the range of attributes (A), consequences (C), and values (V). Costa et al., (2004) describe it as face-to-face, individual, in-depth, semi-structured interviews aiming at the elicitation of the attribute-consequence-value associations consumers hold regarding the object(s) under study.

2.1.3. Conceptual Framework of Laddering Technique

Laddering technique is generally framed in seven phases for the purpose of data collection, analysis and interpretation. The following phases have been outlined: 1) elicitation of the attributes; 2) selection of the functional attributes; 3) elicitation of the attribute levels; 4) performing laddering interviews; 5) determination and coding of means-end chains; 6) aggregation: construction of hierarchical value map (HVM); and 7) analysis and interpretation of the HVM (Jusan, 2007; Coolen & Hoekstra, 2001). These phases are for the purpose of measuring and analyzing the various elements and the linkages between them in MEC.

Following the coding step, an implication matrix is generated which serves as a method of bridging the gap between the qualitative and quantitative aspects of the technique. A HVM is then constructed on the basis of the results of the implication matrix. It shows a graphic presentation of all the most frequently mentioned attributes, consequences, and values, and it consists of a series of nodes, connected by lines,

representing the aggregate of the respondents' ladders. The laddering results can be used to create an HVM summarizing all interviews across individuals, which is interpreted as representing dominant perceptual orientations, or "ways of thinking" with respect to the product category (Tania et al., 2006;). (For details of examples of coding, Implication Matrix and HVM, refer Tania et al., 2006)

2.2. Housing Preference and Choice

Housing is a complex and heterogeneous product in its setting, the cognitive structures of housing users for housing attributes is also complex as well as their choice behaviors. Choices are versions of our life expressions. We become versions of who we are based on the different choices that we make (Zinas & Jusan, 2010a). They further emphasize that preferences and choices are lifetime phenomena, and that every person lives and operates within the framework of choosing from alternatives of life's endeavors. These choice and preference activities are dynamic in *modus operandi*. Molin et al. (1996) state that choices are understood to echo preferences. The Means-End Chain (MEC) model has been found in its application to successfully handle and measure these complexities in housing research (Zinas & Jusan, 2009; 2010a, b).

Housing choice and preference has been extensively studied (Mulder, 1996), but not within the context of behavioral framework of MEC. Most housing choice studies have been conducted within the framework of stated housing preference and choice model, but neglecting the intrinsic choice behaviors that informed such choice actions (Zinas & Jusan, 2010a, b). Coolen et al., (2002) averred that researches in housing preferences paid little attention to underlying motivational factors as goals, attitudes and values. Zinas and Jusan (2009; 2010a, b; 2011) submit that this is where MEC model is relevant to measure these intrinsic and abstract variables. Molin et al. (1996) argue that stated preference and choice models are potentially powerful in eliciting consumer housing preferences. Methodological works of Timmermans et al. (1994) presented broadly two measurement housing choice and preference modeling approaches as: the revealed models of housing choice and the stated models of housing preference and housing choice.

Zinas and Jusan (2010b) posit that the conceptual steps outlined by several researchers (Jusan, 2007, 2010b; Tania et al., 2006; Costa et al., 2004; Coolen & Hoekstra, 2001; Gengler & Reynolds, 1995; Reynolds & Gutman, 1988) for eliciting relevant attributes in MEC for laddering interview seem to have elements for both quantitative and qualitative research methods with respect to measuring housing choice behaviors particular in hypothetical situations. In a situation where the relevant attributes are known like it is for housing, the first two steps should not be used as posited by Coolen and Hoekstra (2001). According to Coolen and Hoekstra (2001), this method is often used where relevant attributes are unknown, and one is dealing with a homogeneous product field.

In a hypothetical or intended housing choice and preference research situation, some other instruments like questionnaire can be employed to elicit the respondents' attributes choice and preference before the laddering interview in MEC can be conducted (Zinas and Jusan, 2010b, 2011). They further posit that the conceptual framework of stated housing preference and housing choice model approach presents a potential for this to be achieved. Adamowicz et al. (1998) assess that stated models are choice-based approaches and methods of preference elicitation that presents to respondents one or more choice sets of two or more alternatives and asks that they indicate their most preferred alternative. According to Orzechowski (2004), the alternatives of interest can be presented through a questionnaire by paper-and-pencil, but other means of presentation such as multi-media can also be used. He clarifies further that the major advantage of this model is that it allows you to measure preference of choice behavior for products that do not exist yet (Orzechowski, 2004). Abley (1997) asserts that the data generated from this kind of survey proved far easier to analyze, and allowed greater prediction of market shares. Merino-Castello

(2003) outlines two techniques for these approaches as, firstly that consumers are asked to evaluate a series of hypothetical and real products, defined in terms of their features; and secondly that consumers are asked to view a series of competing products and select one or, in some cases, more than one. He posits that these choice-based approaches are based on a more realistic task that consumers perform every day; the task of choosing a product from among a group of competitors.

3. Methodology

3.1. Methodological Model

The model used for conducting this study is the extended MEC model combining the traditional MEC model and part of SHPHC model for eliciting housing interior finishes attributes choices from respondents as illustrated in figure 2.\

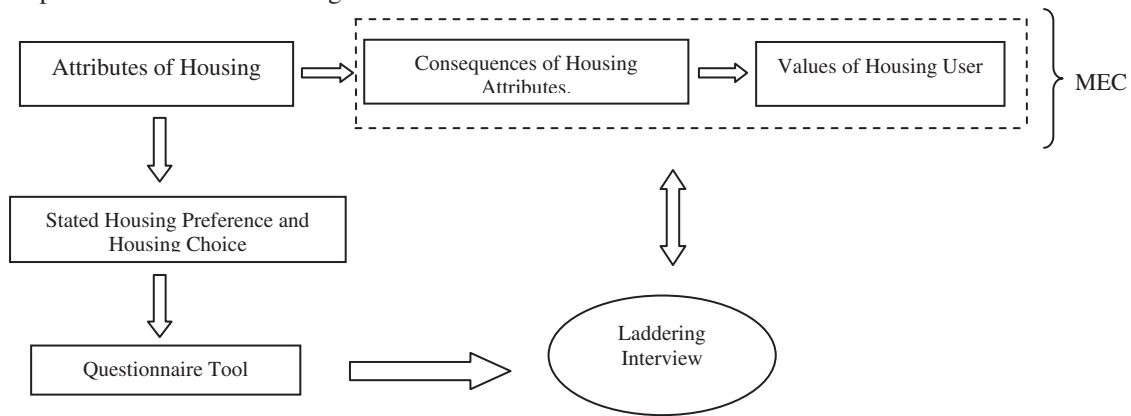


Fig. 2: Extended MEC Model (Source: Zinas & Jusan 2010b, 2011)

Zinas and Jusan (2011) explain that this extended MEC model advocates that a set of housing attributes are profiled in a questionnaire and presented to target respondents to elicit their choices through a selection process. Thereafter, this choice information are fed into the laddering tool for the laddering one-on-one interviews to elicit the linkages of consequences of the chosen housing attributes, and the personal values that necessitated these choices. The research relationship between laddering interview and the variables of consequences and user values in the model is a kind of ‘pendulum-swing’ type as outlined in the traditional MEC model. The sampling processes of the respondents in both stages depends largely on the researcher’s investigative interest, which he must establish within a certain sampling criteria determined by him.

3.2. Elicitation of Housing attributes

Eighteen sets of interior finishes attributes were compiled and profiled under three attributes segments of floor, walls and ceiling, in a matrix of a structured questionnaire and distributed to one hundred and fifty randomly sampled prospective house owners in the city of Yola, Nigeria. This is consistent with the Coolen and Hoekstra (2001) modified method of MEC for eliciting relevant housing attributes from their respondents. The difference is that Coolen and Hoekstra (2001) used a Repertory or Kelly Grid to present the compiled housing attributes to the respondents as against the questionnaire tool we used. Respondents were requested to select by indicating their choices and preferences of interior finishes for

their would-be housing interior spaces. To make informed responses, a supporting demonstration 3D technical model of a one bedroom bungalow house was presented to each of the respondents that are not technically inclined, to clarify the technical terms of the interior finishes elements. The questionnaire also contain some other components as socio-demographic information, desire to build own housing, development stage of proposed housing, and availability to oblige an interview.

3.3. Elicitation of motivations for Chosen Attributes

The questionnaires were collated, and a semi-structured interview called laddering was conducted. The laddering, which is a tailored interviewing format using basically a series of directed probes was conducted with fifteen of the respondents that participated in answering our questionnaires earlier, by purposive sampling method. The selection criteria for the fifteen respondents were on four levels: firstly, desire of respondent to build own housing; secondly, development stage of proposed housing below occupational stage; thirdly, frequency of preferred sets of interior housing finishes; and fourthly, willingness to oblige an interview.

The laddering interview with each of the respondents was conducted either in the respondent's house or office depending on respondent's convenience of venue and time. Each of the interviews was digitally voice recorded with a 2-gigabyte MP3 Sony electronic device. The average recorded length of time of the interviews was one hour. These free responses voice recorded interviews were transcribed and content analyzed.

3.4. Data Analysis

The quantitative data that resulted are being analyzed descriptively, using frequency of the choices made, and examining if there is any relationship existing between the choices and the other variables responded to. Table 1 shows the percentages of the cumulative Floor finish frequency of preferences made by the respondents.

Table 1: Frequency of Floor Finish Choice (Field Survey, 2010)

S/No	Housing Space floor Finish type	Frequency of Preference (%)
1	Ceramic Tiles	71.95
2	PVC Tiles	4.19
3	Plywood	0.57
4	Cement-Sand Screed	8.22
5	Terrazzo	4.00
6	Stone	0.38
7	Marble	10.69
Total		100

Only the motivations for Ceramic Tiles Floor finish choice and preference are presented in this paper.

The qualitative laddering interview data in MEC were processed manually. The analysis was conducted using Content Analysis tool. The voice recorded data were transcribed into a written textual format. The basic elements were identified and categorized into attributes, consequences or values from the transcribed data. "Ladders" were constructed from these identified and categorized raw data. The analysis is being performed using the traditional MEC method (Reynolds & Gutman, 1988) and the modified methods of Jusan (2007b) and Coolen and Hoekstra (2001). The basic elements of analysis are

“word”, or “sense of sentences”, or “phrases”. For the purpose of this paper, only the elements for the abstract attribute “easy to clean/maintain” of ceramic tiles floor finish are herein coded and presented. The coding of the elements was into fourteen content codes, ranging from 01 to 14 as presented in Table 2.

Table 2: Summary of Content Codes for Ceramic Tiles Floor Finish

Code	Content Elements Attributes	Code	Content Elements Values cont'd
01	Easy to Clean/maintain	07	Satisfaction
	Consequences	08	Comfort
02	Have healthy environment	09	Godly heritage/prestige
03	Have appealing environment	10	Enjoying Life
04	Conservation of resources	11	Role Model
05	Maintenance attitude	12	Accomplishment
	Values	13	Self-confidence
06	Healthy life	14	Fulfilment

4. Results and Discussion

The next step is to generate an implication matrix, but for the purpose of this paper only a summary of frequency of mention of the elements linking them to the abstract attribute ‘easy to clean’ of the ceramic tiles floor finish as presented in table 3 below.

Table 3: Summary of Frequency of mention of the elements Linking ‘easy to clean’ attribute of ceramic tiles floor finish

Code	Content Elements Attributes	Frequency of Linkages	Code	Content Elements Values cont'd	Frequency of Linkages
01	Easy to Clean/maintain	15.00 (15)	07	Satisfaction	00.04 (04)
	Consequences		08	Comfort	00.04 (04)
02	Have healthy environment	19.18 (39)	09	Godly heritage/prestige	00.05 (05)
03	Have appealing environment	13.07 (20)	10	Enjoying Life	00.04 (04)
04	Conservation of resources	12.15 (27)	11	Role Model	00.06 (06)
05	Maintenance attitude	08.01 (09)	12	Accomplishment	00.08 (08)
	Values		13	Self-confidence	00.01 (01)
06	Healthy life	00.09 (09)	14	Fulfilment	00.02 (02)

The findings show that about 72% (table 1) of the entire housing floor space cumulative area is preferred to be finished with ceramic tiles by prospective house owners and the least preferred floor finish is stone. Several reasons are advanced for this preference, principal among these factors is the ‘easy to clean or maintain’ of ceramic tiles floor. Several motivational factors (both benefits and personal values) are also linked to this abstract attributes ‘easy to clean/maintain’ as categorized and coded in table 2.

In Table 3, the frequencies of linkages of elements as they relate to ‘easy to clean’ attribute of ceramic tiles floor finish within a given category are shown. The numbers indicate the direct and indirect linkages of the elements to the attribute “easy to clean”. The numbers to the left of the decimal point are direct linkages, while the numbers to the right of the decimal point are the indirect linkages. For example, 19.18 indicated for the code 02 (healthy environment) implies that nineteen (19) elements were mentioned by

respondents linking 'easy to clean' of the ceramic floor finish directly to engender a healthy environment, while eighteen (18) elements were mentioned indirectly to link 'easy to clean' attribute with healthy environment. The numbers in parenthesis are the total of frequency of mention of the elements linking the attribute 'easy to clean' of the ceramic floor finish. Within this category (code 02), motivational factors such as "eliminates sickness prone environment; dirt does not hide; germs will not easily hide; can't enhance germs infestation; eliminates enhancement of diseases; eliminates breeding for mosquitoes and flies; no unnecessary odors; removes cleaning discomforts; eliminates diseases prone environment; guarantees a healthy environment" amongst other factors were linked to this attribute.

This spectrum of motivational factors comprise majorly of everyday activities and concerns, which Lindberg et al. (1987) found to be the main intervening factors between values and preferences for housing attributes. The results depicts that the abstract attribute, easy to clean, the interviewees mentioned the desire to have a healthy environment and an appealing environment as the motivation more than any other motivation. They reasoned that having a healthy environment will generate and enhance the health status of the family, which will translate to not being sick and saving of resources that would have been otherwise spent on medication. One respondent captures it this way:

"health is wealth; Healthy living environment can promote long life, promote productivity, it makes you more productive; you become more fulfilled. It produces self-esteem, confidence; you are not afraid to aim higher in life. It makes you more daring for pursuing other goals and dreams".

Choosing and preferring housing interior finishes materials that promote a healthy environment and engender healthy life as a terminal value; is of utmost significance to prospective house owners in Nigeria.

The value orientation of the respondents from hedonic value domain is minimal, such as "enjoying life and comfort" are linked to this particular attribute. Further more, some other motivational values have been advanced as the reasons for preference of this attribute. Strongest among them is the motivation to accomplish more in life. They linked the ease of cleaning of ceramic tiles to saving energy, saving time, and saving money; which will be channeled to other areas of life's endeavors which will make them to achieve and accomplish more in life.

5. Conclusion

In summary, it is obvious that people prefer to finish their houses with materials that will make them to have easy life orientation from the point of view of maintaining the house with minimal costs. They will prefer materials that will make an appealing and appreciative environment that will make them feel fulfilled in life. Everybody will prefer to live in a healthy environment that promotes the health status of those living with him. This makes for a health security scheme in housing environment. The cumulative impact of this is the maximization of person-environment congruence (PEC), which will minimize and reduce the risks of housing design failing the test of use.. It is our humble view that there exist huge research potentials in the area of housing interior space quality, and the reasons for house owners to prefer a set of interior finishes for their housing spaces. Most researchers conducted dwelled more in the area of housing spatial configuration and housing location. A lot of research has yet to be done in the area of housing interior finishing, which puts more quality to the spatial orientations being studied and of course housing design proposals for interior finishes that promote cleanliness of the housing environment.

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